

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration is respectfully requested in view of the preceding amendments and the following remarks.

Claim Amendments

In this response, claim 39 has been amended to clarify the structure which is set forth therein. In this connection, attention is called to Fig. 2B wherein two shaftless rotors are shown connected in series with fluid entering at inlet 10a and exiting at outlet 10b. A detailed description of the arrangement shown in Fig. 2B is provided at paragraphs [0073], [0074] and [0078] of the publication of the instant application – see US 2005/0211618. The rejection of claim 39 under 35 USC § 112, first paragraph as failing to comply with the written description requirement, is therefore, respectfully traversed.

Independent claim 19 has been amended to call for the rotor to be essentially spherical. Support for this is found in the drawings, in particular Figs, 1A - 1C. Claim 19 has been amended to call for the rotor to be vaneless. This is also supported by the drawings which show the rotor to be vaneless in the same manner as a dimpled golf ball. This is also supported by the drawings and the disclosure taken as a whole.

A new claim 40 is added. This new claim finds support in the disclosure and drawings when taken as a whole. It is patentable over the art of record in that it calls for the rotor to be free to rotate in radial or axial directions within the housing. None of the cited references can be relied upon to suggest this.

Rejections under 35 USC § 102

The rejection of claims 19-23 and 26-30 under 35 USC § 102(e) as being anticipated by the disclosure of Schoendorfer is respectfully traversed.

First, the rejection is unclear in that it cites recesses 118 and 110 as being the claimed recesses and then asserts the vanes 116 each define a recess. It is therefore unclear as to which recesses are actually being relied upon for rejection.

Further, Schoendorfer is such as to disclose a method of filtering liquid with an aim of creating reverse osmosis (see abstract) and has a cylindrical rotor which is restricted to rotation about a single fixed axis within a cylindrical bore. The rotor has vanes 116 which extend radially outward with respect to the axis of a central shaft portion 114. A filter 106 is disposed within the bore and used in conjunction with the rotor.

The claims, as amended, distinguish over this elongate cylindrical rotor member which is provided with vanes 116, by calling for the rotor to be essentially spherically shaped, and mounted in a manner wherein it is effectively free to rotate within the housing in any direction, irrespective of the fact that the recessed portions tend to align the direction of rotation. No physical filter is necessary. However, a filter element can be used in addition to the disclosed apparatus for particularly dirty fluids.

The claims also call for the claimed rotor to be vaneless. As will be appreciated, unlike the Schoendorfer arrangement, vanes are not required with the claimed arrangement and the complexity of the rotor is, in accordance with the claimed invention, clearly reduced.

Rejections under 35 USC § 103

- 1) The rejections of claim 39 under 35 USC § 103(a) as being unpatentable over Schoendorfer is respectfully traversed. It is submitted that claim 39 was partly misunderstood and that the nature of the subject matter, as now clarified, is neither disclosed in nor suggested by the disclosure of Schoendorfer.
- 2) The rejection of claims 19-23 and 26-39 as being unpatentable over Cooper et al. in view of Grondin et al. or vice versa, is respectfully traversed.

Neither of these references disclose a rotor which is both vaneless and essentially spherical in shape. Indeed, the arrangement disclosed in Cooper et al. appears to have shaft-like members projecting out from either side of the vaned rotor arrangement. At column 2, lines 55-

66, there is disclosure of magnetic bearings 35 which support the rotor. This clearly infers that a shaft is present. That is to say, why have bearings if there are no shafts to journal therein. While the bearings may be of the non-contact magnetic type, still they are such as to restrain the rotors from deviating from a predetermined rotational position.

It is therefore submitted that neither of Cooper et al. or Grondin et al. suggest the claimed arrangement when taken either individually or in combination. As such the rejection is seen as being untenable.

Conclusion

It is respectfully submitted that the claims as they have been amended and newly presented are allowable over the art which has been applied in this Office Action. Favorable reconsideration and allowance of this application are courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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